Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A semiconductor device, comprising:

a semiconductor chip including first and second principal surfaces, a first electrode formed on the first principal surface, and a second electrode formed on the second principal surface.

a first lead frame including a first heat sink portion connected to the first electrode and a first terminal portion;

a second lead frame including a second heat sink portion connected to the second electrode and a second terminal portion; and

a housing sealing the semiconductor chip and being formed not to cover part of surfaces of the first and second heat sink portions.

2. (Original) The semiconductor device according to claim 1, wherein the first and second terminal portions are unified with the first and second heat sink portions from which the first and second terminal portions extend, respectively.

3. (Currently amended) The semiconductor device according to claim 1, wherein the first heat sink portion and the first terminal portion are separate components and are connected to each other to constitute the first lead frame~~, and the second heat sink portion and the second terminal portion are separate components and are connected to each other to constitute the second lead frame~~.

4. (Original) The semiconductor device according to claim 1, wherein the first and second electrodes are directly connected to the first and second heat sink portions, respectively.

5. (Original) The semiconductor device according to claim 1, wherein the first and second heat sink portions are composed of conductive plates.

6. (Original) The semiconductor device according to claim 1, wherein thicknesses of the first and second heat sink portions are greater than thicknesses of the first and second terminal portions, respectively.

7. (Original) The semiconductor device according to claim 1, wherein the first and the second heat sink portions and the first and second terminal portions are composed of conductive materials containing Cu.

8. (Original) The semiconductor device according to claim 1, wherein the first and second heat sink portions are composed of conductive materials containing Al, and the first and second terminal portions are composed of conductive materials containing Cu.

9. (Original) The semiconductor device according to claim 8, wherein the first electrode is composed of a conductive material containing Al, and the first heat sink portion is connected to the first electrode by an ultrasonic bonding operation.

10. (Original) The semiconductor device according to claim 1, further comprising:

a third electrode on the first principal surface, the third electrode being connected to a third lead frame through a wire.

11. (Original) The semiconductor device according to claim 10, wherein the first lead frame is formed to extend into a region above the third electrode.

12. (Original) The semiconductor device according to claim 1, further comprising:

a third electrode on the first principal surface; and

a third lead frame including a top plate portion connected to the third electrode and a third terminal portion.

13. (Original) The semiconductor device according to claim 12, wherein the first lead frame is formed to extend into a region above the third electrode.

14. (Original) The semiconductor device according to claim 12, wherein the housing is formed to expose part of a surface of the top plate portion.

15. (Original) The semiconductor device according to claim 12, wherein the top plate portion and the third terminal portion are composed of a conductive material containing Cu.

16. (Original) The semiconductor device according to claim 12, wherein the top plate portion is composed of a conductive material containing Al, and the third terminal portion is composed of a conductive material containing Cu.

17. (Original) The semiconductor device according to claim 16, wherein the third electrode is composed of a conductive material containing Al, and the top plate portion is connected to the third electrode by an ultrasonic bonding operation.

18. (Original) A semiconductor device, comprising:

a semiconductor chip including first and second principal surfaces, a first electrode formed on the first principal surface, and a second electrode formed on the second principal surface;

a first lead frame including a first connecting portion connected to the first electrode and a first terminal portion, the first connecting portion being conductive and plate-shaped;

a second lead frame including a second connecting portion connected the second electrode and a second terminal portion, the second connecting portion being conductive and plate-shaped; and

a housing sealing the semiconductor chip, and being formed not to cover part of surfaces of the first and second connecting portions.

19. (Original) The semiconductor device according to claim 18, wherein the first and second terminal portions are unified with the first and second connecting portions from which the first and second terminal portions extend, respectively.

20. (Currently amended) The semiconductor device according to claim 18, wherein the first connecting portion and the first terminal portion are separate components and <u>are</u> connected to each other to constitute the first lead frame~~, and the second connecting portion and the second terminal portion are separate component and connected to each other to constitute the second lead frame~~.

21. (Original) The semiconductor device according to claim 18, wherein the first and second electrodes are directly connected to the first and second connecting portions, respectively.

22. (Original) The semiconductor device according to claim 18, wherein thicknesses of the first and second connecting portions are greater than thicknesses of the first and second terminal portions, respectively.

23. (Original) The semiconductor device according to claim 18, wherein the first and second connecting portions and the first and second terminal portions are composed of conductive materials containing Cu.

24. (Original) The semiconductor device according to claim 18, wherein the first and second connecting portions are composed of conductive materials containing Al, and the first and second terminal portions are composed of conductive materials containing Cu.

25. (Original) The semiconductor device according to claim 24, wherein the first electrode is composed of a conductive material containing Al, and the first connecting portion is connected to the first electrode by an ultrasonic bonding operation.

26. (Original) The semiconductor device according to claim 18, further comprising:

a third electrode on the first principal surface, the third electrode being connected to the third lead frame through a wire.

27. (Original) The semiconductor device according to claim 26, wherein the first lead frame is formed to extend into a region above the third electrode.

28. (Original) The semiconductor device according to claim 18, further comprising:

a third electrode on the first principal surface; and

a third lead frame including a top plate portion connected to the third electrode and a third terminal portion.

29. (Original) The semiconductor device according to claim 28, wherein the first lead frame is formed to extend into a region above the third electrode.

30. (Original) The semiconductor device according to claim 28, wherein the housing is formed to expose part of a surface of the top plate portion.

31. (Original) The semiconductor device according to claim 28, wherein the top plate portion and the third terminal portion are composed of a conductive material containing Cu.

32. (Original) The semiconductor device according to claim 28, wherein the top plate portion is composed of a conductive material containing Al, and the third terminal portion is composed of a conductive material containing Cu.

33. (Original) The semiconductor device according to claim 32, wherein the third electrode is composed of a conductive material containing Al, and the top plate portion is connected to the third electrode by an ultrasonic bonding operation.